8.0 ONSITE GAMMA-EMITTING RADIONUCLIDES IN AIR AND WATER AND RADIUM AND STRONTIUM IN WATER

Data for gamma emitting radionuclides in air and water of the Nevada Test Site (NTS) are obtained from gamma spectroscopy of air filters and water samples. Over 1,000 water samples and 2,000 air filters were submitted for gamma spectroscopy in 1996. A computer program identifies specific isotopes from the spectra. Of the thousands of spectra that are analyzed annually, only a few show identifiable isotopes that are not naturally occurring. This chapter reports the results of these analyses along with the results of radium and strontium in water analyses.

GAMMA EMITTING RADIONUCLIDES IN AIR

Naturally occurring radionuclides not in equilibrium at the time of counting, such as ^{208}Tl, ^{212}Pb, ^{214}Pb, and ^{214}Bi, were omitted from this data report. This leaves no gamma emitting radioisotopes other than the naturally occurring ^{7}Be and ^{40}K, and the non-naturally occurring ^{137}Cs. Descriptive statistics, in units of µCi/mL, for these radionuclides appear in Table 8.1. Only 7 of the 2,278 analytical results for ^{7}Be are less than the individual detection limits; thus, the statistics for this isotope in Table 8.1 summarize environmental levels. However, 87 percent of the ^{40}K results and 44 percent of the ^{137}Cs results are below individual detection limits; thus, the statistics for these isotopes in Table 8.1 may not quantitatively represent environmental levels. The individual analytical results for the naturally occurring radioisotopes ^{7}Be and ^{40}K are not presented in this report. The analytical results for ^{137}Cs are presented in Attachment 8.1. The very limited number of ^{137}Cs data that are above detection limits, five values, precludes any further statistical analysis of this data.

The median detection limit for ^{7}Be in air was 6.2×10^{-14} µCi/mL in 1996. For ^{40}K, it was 1.2×10^{-13} µCi/mL, and for ^{137}Cs, the detection, limit was 7.7×10^{-15} µCi/mL.

GAMMA EMITTING RADIONUCLIDES IN WATER

The only non-naturally occurring gamma emitter found in NTS water samples was ^{137}Cs. This was found in five samples, all from Area 12 E Tunnel effluent and Pond No. 2. The presence of non-naturally occurring radionuclides in these waters is not surprising, since nuclear experiments formerly occurred within this tunnel. Descriptive statistics for these data are presented in Table 8.2, and the data appear in Attachment 8.2. Four of the five results are above the minimum detectable concentration (MDC). The median MDC for these five analyses is 1.2×10^{-7} µCi/mL.

RADIUM-226 AND RADIUM-228 IN WATER

Radium concentrations were measured quarterly at 11 supply wells around the NTS in 1996. Water samples from other types of sources are not analyzed for radium. The data for ^{226}Ra appear in Attachment 8.3, and for ^{228}Ra, the data appear in Attachment 8.4. Descriptive statistics for radium in water for all locations and dates combined appear in Table 8.3. For ^{226}Ra, the median MDC is 2.2×10^{-9} µCi/mL and 86 percent of the results are less than the corresponding MDC. For ^{228}Ra, the median MDC is 9.9×10^{-10} µCi/mL and 88 percent of the results are less than the individual MDC.

Tables 8.4 and 8.5 summarize the radium data by the quarter that the samples were collected. Examination of these tables indicates that second quarter results have larger mean values and standard deviations for both radium isotopes. This situation was investigated, and it was found that the radium tracer used in the analyses contained impurities. The effects of the impurities cannot be compensated for and result in the observed larger variability in the data for the second quarter.

Since over 85 percent of the results for both radium isotopes are less than the corresponding MDC, no further statistical analyses were performed.

STRONTIUM-90 IN WATER

In 1996, ^{90}Sr concentrations were measured in samples from 45 locations on the NTS. Samples were collected quarterly from 12 supply wells, and an annual sample for 1996 was collected from 7 potable water end points, 7 natural springs, 9 open reservoirs, 2 containment ponds, and 8 sewage ponds. A total of 78 ^{90}Sr analyses were performed in 1996. The locations in each of these classes of water samples are identified in Attachment 8.5.

The ^{90}Sr data are presented in Attachment 8.5. An examination of the data in this attachment will show that all concentrations are below the individual MDC, except those from the containment ponds, and these two values are substantially above the MDC. Water from inside the E-Tunnel, where nuclear experiments formerly occurred, drains into the effluent and then into the pond. Thus it is not surprising to find non-naturally occurring radionuclides in these waters. Descriptive statistics by type of sampling location for the ^{90}Sr results, except for the containment ponds, are given in Table 8.4. The median MDC for the sampling locations in Table 8.6 combined is 3.06×10^{-11} µCi/mL. Table 8.7 contains summary annual statistics for the supply wells. Since the remaining locations were sampled for ^{90}Sr only once during 1996, no statistics can be computed.

Since all the ^{90}Sr results from the environmental water sampling locations, that is all locations excluding the containment ponds, are less than the individual MDC and 76 percent of those results are negative, any statistical analyses or further data descriptions are unreasonable. This data simply shows that, except for the containment ponds, no ^{90}Sr was detected in NTS water samples.

CONCLUSIONS

The only non-naturally occurring gamma emitting radionuclide found in air in 1996 was ^{137}Cs. This isotope was detected in nine air samples from a total of over 2,000 samples analyzed. The maximum of these nine cesium concentrations was 1.5×10^{-14} µCi/mL, about twice the detection limit. The only non-naturally occurring gamma emitting radionuclide found in water was also ^{137}Cs, which was found only in E Tunnel effluents. ^{226}Ra and ^{228}Ra were found in supply well waters. Eighty-six percent of the ^{226}Ra analyses results were below the individual MDC, and 88 percent of the ^{228}Ra results were below MDC. All ^{90}Sr results in 1996 were below MDC, except the samples collected from containment ponds.

Table 8.1 Descriptive Statistics for Gamma Emitting Radionuclides in Air (µCi/mL) - 1996

Nuclide	Number of Samples Containing	Mean	Median	Standard Deviation	Minimum	Maximum
^{7}Be	2278	2.5×10^{-13}	2.4×10^{-13}	7.7×10^{-14}	2.3×10^{-14}	8.8×10^{-13}
^{40}K	15	9.6×10^{-14}	8.6×10^{-14}	4.0×10^{-14}	6.4×10^{-14}	2.2×10^{-13}
^{137}Cs	9	8.2×10^{-15}	7.8×10^{-15}	2.8×10^{-15}	5.1×10^{-15}	1.5×10^{-14}

Table 8.2 Descriptive Statistics for Gamma Emitting Radionuclides in Water (µCi/mL) - 1996

Nuclide	Number of Samples Containing	Mean	Median	Standard Deviation	Minimum	Maximum
^{137}Cs	5	2.1×10^{-7}	1.7×10^{-7}	1.5×10^{-7}	1.0×10^{-7}	4.7×10^{-7}

Table 8.3 Descriptive Statistics for Radium in Water (µCi/mL) - 1996

Nuclide	Number of Samples	Mean	Median	Standard Deviation	Minimum	Maximum
^{226}Ra	42	1.1×10^{-9}	0.8×10^{-9}	1.5×10^{-9}	-2.4×10^{-9}	5.5×10^{-9}
^{228}Ra	42	1.3×10^{-10}	0.5×10^{-10}	5.0×10^{-10}	-14.9×10^{-10}	16.3×10^{-10}

Table 8.4 Descriptive Statistics for ^{226}Ra in Water by Quarter (µCi/mL x 10^{-9}) - 1996

Quarter	Number of Samples	Mean	Median	Standard Deviation	Minimum	Maximum
1	10	1.16	1.14	0.84	0.00	2.57
2	10	2.37	2.87	2.57	-2.37	5.53
3	11	0.91	0.88	0.90	0.16	1.78
4	11	0.26	0.32	0.58	-1.01	1.32

Table 8.5 Descriptive Statistics for ^{228}Ra in Water by Quarter (µCi/mL x 10^{-10}) - 1996

Quarter	Number of Samples	Mean	Median	Standard Deviation	Minimum	Maximum
1	10	1.26	1.24	1.90	-0.20	4.84
2	10	3.98	7.59	9.62	-14.90	16.30
3	11	-0.28	0.00	1.73	-2.44	3.14
4	11	0.50	0.50	1.92	-2.44	3.14

Table 8.6 Descriptive Statistics for ^{90}Sr in Water at Environmental Locations (µCi/mL x 10^{-11}) - 1996

Location Type	Number of Samples	Mean	Median	Standard Deviation	Minimum	Maximum
Supply Wells	45	-3.7	-3.9	8.0	-23.5	17.0
Potable Water	7	-7.1	-5.5	5.5	-15.7	0.9
Natural Springs	7	-8.4	-7.6	7.2	-19.0	2.0
Open Reservoirs	9	-6.0	-5.5	6.7	-18.4	5.7
Sewage Lagoons	8	-8.0	-6.0	10.0	-28.5	3.6
All Types Combined	76	-5.2	-4.6	7.9	-28.5	17.0

Table 8.7 Descriptive Statistics for ^{90}Sr in Water From Supply Wells (µCi/mL x 10^{-11}) - 1996

Area/Location	Number of Samples	Mean	Median	Standard Deviation	Minimum	Maximum
Area 5, Well 5B	4	-3.5	-2.3	6.2	-11.9	1.65
Area 5, Well 5C	4	-4.8	-5.9	4.2	-8.3	1.0
Area 5, Well UE-5C	4	-3.3	-7.2	12.9	-6.6	6.9
Area 6, Well No. 4A	4	2.6	0.6	6.7	-2.8	12.2
Area 6, Well No. 4	4	-8.4	-9.4	4.0	-12.1	-2.7
Area 6, Well C-1	4	-0.6	-1.4	6.0	-6.6	6.9
Area 16, Well UE-16D	4	-2.6	-3.8	8.9	-10.1	7.4
Area 18, Well HTH No. 8	4	-4.5	-3.2	6.5	-13.4	1.9
Area 22, Army Well No. 1	4	-5.1	-10.5	15.7	-16.3	17.0
Area 25, Well J-12	4	-1.7	-2.4	3.0	-4.5	2.5
Area 25, Well J-13	4	-4.2	-3.7	4.0	-9.5	0.1

Attachment 8.1 ^{137}Cs in Air (µCi/mL x 10^{-15}) - 1996

Sampling Location	Sampling Period Start	End	Concentration	Standard Deviation	Detection Limit
Area 3, U-3ah/at South	10/29/96	11/06/96	5.9	2.7	5.4
Area 3, U-3ah/at North	10/09/96	10/15/96	7.1	3.7	7.7
Area 3, U-3ah/at West	12/10/96	12/17/96	8.1	3.8	11.0
Area 3, U-3ah/at West	12/17/96	12/30/96	9.6	5.1	17.8
Area 5, RWMS No. 9	07/16/96	07/23/96	7.3	3.2	6.8
Area 5, DOD Yard	01/16/96	01/22/96	8.2	4.0	7.9
Area 9, 9-300	06/05/96	06/12/96	7.8	3.4	7.2
Area 10, Sedan Crater	03/19/96	03/26/96	5.1	2.4	5.7
Area 27, Camp	06/18/96	06/24/96	14.8	4.9	9.1

Attachment 8.2 ^{137}Cs in Water (µCi/mL x 10^{-7}) - 1996

Sampling Location	Sampling Date	Concentration	Standard Deviation[(a)]	MDC
Area 12, E Tunnel Effluent	02/07/96	1.7	0.6	1.5
Area 12, E Tunnel Effluent	05/30/96	1.8	0.6	1.0
Area 12, E Tunnel Effluent	07/25/96	1.0	0.4	1.2
Area 12, E Tunnel Effluent	10/31/96	1.4	0.4	1.0
Area 12, E Tunnel Pond No. 2	07/25/96	4.7	0.7	1.2

(a) Derived from counting error

Attachment 8.3 ^{226}Ra in Water (µCi/mL x 10^{-9}) - 1996

Sampling Location	Sampling Date	Concentration	Standard Deviation	MDC
Area 5, Well 5B	01/17/96	1.1	0.7	2.2
Area 5, Well 5B	05/09/96	2.5	0.9	2.8
Area 5, Well 5B	07/15/96	1.5	0.6	1.9
Area 5, Well 5B	10/07/96	-0.2	0.6	2.1
Area 5, Well 5C	01/17/96	0.4	0.7	2.4
Area 5, Well 5C	05/09/96	-2.4	1.5	5.3
Area 5, Well 5C	07/15/96	0.5	0.9	3.1
Area 5, Well 5C	10/07/96	0.5	0.6	1.9
Area 5, Well UE-5c	05/09/96	0.9	1.2	4.1
Area 5, Well UE-5c	07/15/96	1.5	0.6	2.0
Area 5, Well UE-5c	10/07/96	0.3	0.6	1.9

Attachment 8.3 (^{226}Ra in Water [µCi/mL x 10^{-9}] - 1996, cont.)

Sampling Location	Sampling Date	Concentration	Standard Deviation	MDC
Area 6, Well No. 4A	01/17/96	1.7	0.7	2.2
Area 6, Well No. 4A	07/15/96	1.0	0.8	2.8
Area 6, Well No. 4A	10/07/96	0.5	0.5	1.8
Area 6, Well No. 4	01/17/96	1.3	0.6	1.9
Area 6, Well No. 4	05/09/96	4.4	1.2	3.6
Area 6, Well No. 4	07/15/96	0.2	0.7	2.6
Area 6, Well No. 4	10/07/96	0.1	0.6	2.1
Area 6, Well C-1	01/17/96	2.3	0.6	1.6
Area 6, Well C-1	05/09/96	5.5	1.1	3.0
Area 6, Well C-1	07/15/96	1.8	0.8	2.5
Area 6, Well C-1	10/07/96	0.5	0.6	1.9
Area 16, Well UE-16d	01/17/96	2.6	0.7	2.0
Area 16, Well UE-16d	05/09/96	4.6	1.0	2.8
Area 16, Well UE-16d	07/15/96	0.9	0.9	3.0
Area 16, Well UE-16d	10/07/96	1.3	0.7	2.2
Area 18, Well HTH No. 8	01/17/96	0.6	0.5	1.8
Area 18, Well HTH No. 8	05/09/96	3.6	1.2	3.7
Area 18, Well HTH No. 8	07/15/96	0.2	0.8	2.7
Area 18, Well HTH No. 8	10/07/96	0.1	0.5	1.8
Area 22, Army Well No. 1	01/17/96	0.4	0.6	2.1
Area 22, Army Well No. 1	05/09/96	1.1	1.2	4.7
Area 22, Army Well No. 1	07/15/96	0.4	0.7	2.5
Area 22, Army Well No. 1	10/07/96	-1.0	0.6	2.4
Area 25, Well J-12	01/17/96	1.2	0.7	2.2
Area 25, Well J-12	05/09/96	0.2	1.4	4.9
Area 25, Well J-12	07/15/96	1.8	0.6	1.9
Area 25, Well J-12	10/07/96	0.6	0.6	1.9
Area 25, Well J-13	01/17/96	0.0	0.7	2.4
Area 25, Well J-13	05/09/96	3.2	1.0	3.1
Area 25, Well J-13	07/15/96	0.3	0.6	2.0
Area 25, Well J-13	10/07/96	0.1	0.6	2.2

Attachment 8.4 ^{228}Ra in Water (µCi/mL x 10^{-10}) - 1996

Sampling Location	Sampling Date	Concentration	Standard Deviation	MDC
Area 5, Well 5B	01/17/96	1.6	2.8	10.6
Area 5, Well 5B	05/09/96	5.6	2.1	2.4
Area 5, Well 5B	07/15/96	-0.7	2.4	10.2
Area 5, Well 5B	10/07/96	-1.1	1.8	8.0
Area 5, Well 5C	01/17/96	0.9	2.9	11.6

Attachment 8.4 (^{228}Ra in Water [µCi/mL x 10^{-10}] - 1996, cont)

Sampling Location	Sampling Date	Concentration	Standard Deviation	MDC
Area 5, Well 5C	05/09/96	9.0	3.0	3.0
Area 5, Well 5C	07/15/96	0.9	3.3	13.2
Area 5, Well 5C	10/07/96	-1.5	1.5	7.1
Area 5, Well UE-5c	05/09/96	-6.5	4.3	18.5
Area 5, Well UE-5c	07/15/96	-1.4	2.2	10.2
Area 5, Well UE-5c	10/07/96	0.5	1.9	7.5
Area 6, Well No. 4A	01/17/96	0.0	0.4	10.7
Area 6, Well No. 4A	07/15/96	3.1	3.1	11.3
Area 6, Well No. 4A	10/07/96	0.5	1.8	7.1
Area 6, Well No. 4	01/17/96	2.1	2.5	9.2
Area 6, Well No. 4	05/09/96	-5.2	5.8	23.6
Area 6, Well No. 4	07/15/96	0.0	0.2	11.6
Area 6, Well No. 4	10/07/96	-0.6	2.0	8.6
Area 6, Well C-1	01/17/96	4.8	2.6	8.1
Area 6, Well C-1	05/09/96	8.0	3.9	12.4
Area 6, Well C-1	07/15/96	0.0	0.2	11.2
Area 6, Well C-1	10/07/96	5.6	2.4	7.1
Area 16, Well UE-16D	01/17/96	2.9	2.7	9.7
Area 16, Well UE-16D	05/09/96	10.4	2.8	2.2
Area 16, Well UE-16D	07/15/96	1.6	3.1	11.7
Area 16, Well UE-16D	10/07/96	1.1	2.0	7.5
Area 18, Well HTH No. 8	01/17/96	-2.0	1.7	8.8
Area 18, Well HTH No. 8	05/09/96	-14.9	6.8	28.9
Area 18, Well HTH No. 8	07/15/96	0.0	0.2	12.3
Area 18, Well HTH No. 8	10/07/96	-1.1	1.7	7.8
Area 22, Army Well No. 1	01/17/96	2.3	2.7	10.1
Area 22, Army Well No. 1	05/09/96	16.3	4.1	3.1
Area 22, Army Well No. 1	07/15/96	-2.1	2.1	10.2
Area 22, Army Well No. 1	10/07/96	0.6	2.1	8.0
Area 25, Well J-12	01/17/96	0.0	0.4	10.7
Area 25, Well J-12	05/09/96	7.2	3.0	3.6
Area 25, Well J-12	07/15/96	-2.1	2.1	10.0
Area 25, Well J-12	10/07/96	0.5	1.7	6.6
Area 25, Well J-13	01/17/96	0.0	0.4	11.8
Area 25, Well J-13	05/09/96	9.9	4.5	20.5
Area 25, Well J-13	07/15/96	-2.4	1.7	8.8
Area 25, Well J-13	10/07/96	1.1	2.1	8.0

Attachment 8.5 ^{90}Sr in Water (µCi/mL x 10^{-11}) - 1996

Sampling Location	Sampling Date	Concentration	Standard Deviation	MDC
SUPPLY WELLS				
Area 5, Well 5B	01/17/96	-3.8	8.9	32.7
Area 5, Well 5B	05/09/96	2.5	7.7	27.3
Area 5, Well 5B	07/15/96	-11.9	7.2	28.5
Area 5, Well 5B	10/07/96	-0.8	7.5	27.0
Area 5, Well 5C	01/17/96	1.0	9.2	32.8
Area 5, Well 5C	05/09/96	-8.3	8.3	31.4
Area 5, Well 5C	07/15/96	-7.4	8.0	30.6
Area 5, Well 5C	10/07/96	-4.3	7.7	28.6
Area 5, Well UE-5c	01/31/96	15.3	12.9	43.5
Area 5, Well UE-5c	05/09/96	-5.9	7.3	27.8
Area 5, Well UE-5c	07/15/96	-14.2	7.9	31.4
Area 5, Well UE-5c	10/07/96	-8.5	9.5	36.1
Area 6, Well No. 4A	01/17/96	12.2	10.2	34.7
Area 6, Well No. 4A	06/04/96	-1.1	10.8	38.8
Area 6, Well No. 4A	07/15/96	-2.8	8.0	29.8
Area 6, Well No. 4A	10/07/96	2.2	7.2	25.4
Area 6, Well No. 4	01/17/96	-2.7	8.4	30.7
Area 6, Well No. 4	05/09/96	-9.9	7.9	30.3
Area 6, Well No. 4	07/15/96	-12.1	8.0	31.5
Area 6, Well No. 4	10/07/96	-8.9	8.0	30.4
Area 6, Well C-1	01/17/96	1.3	12.4	44.6
Area 6, Well C-1	05/09/96	6.9	8.3	28.8
Area 6, Well C-1	07/15/96	-4.2	7.6	28.2
Area 6, Well C-1	10/07/96	-6.6	6.6	25.1
Area 16, Well UE-16d	01/17/96	7.4	9.2	31.7
Area 16, Well UE-16d	05/09/96	2.4	7.8	27.6
Area 16, Well UE-16d	07/15/96	-10.1	7.3	28.4
Area 16, Well UE-16d	10/07/96	-10.0	5.7	22.5
Area 18, Well HTH No. 8	01/17/96	1.9	9.1	32.4
Area 18, Well HTH No. 8	05/09/96	-1.7	7.9	29.0
Area 18, Well HTH No. 8	07/15/96	-13.4	7.7	30.5
Area 18, Well HTH No. 8	10/07/96	-4.6	7.0	26.0
Area 20, Well U-20	01/29/96	-23.5	9.8	40.2
Area 22, Army Well No. 1	01/17/96	17.0	9.0	29.3
Area 22, Army Well No. 1	05/07/96	-16.2	6.4	26.4
Area 22, Army Well No. 1	07/15/96	-4.8	7.0	26.3
Area 22, Army Well No. 1	10/07/96	-16.3	6.4	26.7
Area 25, Well J-12	01/17/96	-2.1	10.0	36.5
Area 25, Well J-12	05/09/96	2.5	7.6	27.0
Area 25, Well J-12	07/15/96	-2.7	8.2	30.2
Area 25, Well J-12	10/07/96	-4.5	6.8	25.3
Area 25, Well J-13	01/17/96	-3.5	7.8	28.9
Area 25, Well J-13	05/09/96	-3.9	7.1	26.5
Area 25, Well J-13	07/15/96	-9.5	7.5	29.0
Area 25, Well J-13	10/07/96	0.1	6.4	23.0

Attachment 8.5 (^{90}Sr in Water [µCi/mL x 10^{-11}] - 1996, cont.)

Sampling Location	Sampling Date	Concentration	Standard Deviation	MDC
POTABLE WATER END POINTS				
Area 1, Ice House	07/11/96	-12.1	8.0	31.6
Area 2, Restroom	07/11/96	-15.7	6.9	28.0
Area 6, Area Cafeteria	07/11/96	-8.3	7.9	30.5
Area 6, Building 6-900	07/11/96	-5.5	8.4	31.1
Area 12, Building 12-23	07/11/96	-3.6	7.7	28.8
Area 23, Mercury Cafeteria	07/11/96	-5.1	7.6	28.4
Area 25, Building 4221	07/11/96	0.9	8.7	31.2
NATURAL SPRINGS				
Area 5, Cane Spring	07/15/96	-7.6	8.3	31.4
Area 7, Reitman Seep	07/15/96	-3.0	13.7	50.2
Area 12, White Rock Spring	07/22/96	1.9	9.4	33.3
Area 12, Captain Jack Spring	07/22/96	-4.2	7.6	28.4
Area 15, Tub Spring	07/22/96	-13.1	7.1	28.0
Area 16, Tippipah Spring	07/15/96	-13.5	8.4	32.9
Area 29, Topopah Spring	07/15/96	-19.0	7.8	32.2
OPEN RESERVOIRS				
Area 2, Mud Plant Pond	07/22/96	5.7	8.7	30.6
Area 3, Well A Reservoir	07/22/96	-1.6	7.4	26.9
Area 5, Well 5B Reservoir	07/15/96	-5.5	8.1	30.4
Area 5, UE-5c Reservoir	07/15/96	-7.3	9.2	34.6
Area 6, Well 3 Reservoir	07/15/96	-12.2	8.0	31.6
Area 6, Well C-1 Reservoir	07/15/96	-18.4	7.6	31.4
Area 18, Camp 17 Reservoir	07/22/96	-4.3	19.6	71.7
Area 25, Well J11 Reservoir	07/15/96	-6.3	8.2	30.7
Area 25, Well J12 Reservoir	07/15/96	-3.9	8.9	33.0
CONTAINMENT PONDS				
Area 12, E Tunnel Effluent	07/25/96	75.1	13.3	35.5
Area 12, E Tunnel Pond No. 2	07/25/96	138.0	14.8	32.7
SEWAGE LAGOONS				
Area 5, RWMS Sewage Pond	08/08/96	3.6	11.4	40.3
Area 6, Yucca Sewage Pond	08/08/96	-4.5	10.4	38.5
Area 6, DAF Sewage Pond	08/08/96	-4.9	11.0	40.8
Area 11, LANL Sewage Pond	08/08/96	-28.5	10.1	42.4
Area 12, Sewage Pond	08/08/96	-7.1	10.5	39.3
Area 22, Sewage Pond	08/08/96	-7.0	12.7	47.4
Area 23, Sewage Pond	08/08/96	0.1	10.2	37.1
Area 25, Central Sewage Pond	08/08/96	-15.2	8.7	34.2